UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,130	12/30/2005	Ian Hector Frazer	21415-0015	8451

26633 7590 04/04/2007

HELLER EHRMAN LLP
1717 RHODE ISLAND AVE, NW
WASHINGTON, DC 20036-3001

EXAMINER	
MAKAR, KIMBERLY A	
ART UNIT	PAPER NUMBER
1636	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
31 DAYS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/534,130	FRAZER, IAN HECTOR	
	Examiner	Art Unit	
	Kimberly A. Makar	1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2005*.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *39-76* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *39-76* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 39-65, and 71, drawn to methods of making synthetic polynucleotides from which a polypeptide is producible, and the polynucleotides made using this method.

Group II, claim(s) 66-70, drawn to methods of determining the phenotypic preference of a first codon in an organism or part thereof.

Group III, claim(s) 72-73, drawn to transgenic organisms comprising a synthetic construct comprising a regulatory polynucleotide operably linked to a tandem repeat of a first codon fused in frame with a reporter polynucleotide.

Group IV, claim(s) 74-76, drawn to methods of modulating the quality of a selected phenotype that is displayed by an organism of interest or part thereof.

2. The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The invention lacks novelty. Frazer et al WO 00/42215, listed in applicants IDS 1449 form dated 12/20/05, teaches methods of making synthetic polynucleotides from which a polypeptide is producible, and the polynucleotides made using this method (see pages 18, lines 1-25, page 21 lines 17-32, page 24, lines 25 through page 25 line 14, and example 1). Frazer also teaches the generation of transgenic organisms with the polynucleotides and methods of modulating phenotypes based on first codon preference (see whole document).
3. The technical feature of group I is drawn to methods of making synthetic polynucleotides from which a polypeptide is producible, and the polynucleotides made using this method is distinct from the technical feature of group II, drawn to methods of determining the phenotypic preference of a first codon in an organism or part thereof. The methodologies are distinct, as the methods of constructing a synthetic polynucleotide requires different reagents, steps, and conditions than the methodology

of determining the phenotypic preference of a first codon in an organism. Additionally, a search for the construction of a polynucleotide would not be co-extensive with a search of methods of determining phenotypes in an organism. Thus groups I and II are biologically, functionally and compositionally distinct and capable of supporting individual patents.

4. The technical feature of group I is drawn to methods of making synthetic polynucleotides from which a polypeptide is producible, and the polynucleotides made using this method is distinct from the technical feature of group III, drawn to transgenic organisms comprising a synthetic construct comprising a regulatory polynucleotide operably linked to a tandem repeat of a first codon fused in frame with a reporter polynucleotide. Additionally, a search for the construction of a polynucleotide would not be co-extensive with a search of transgenic organisms. Thus groups I and III are biologically, functionally and compositionally distinct and capable of supporting individual patents.

5. The technical feature of group I is drawn to methods of making synthetic polynucleotides from which a polypeptide is producible, and the polynucleotides made using this method is distinct from the technical feature of group IV, drawn to methods of modulating the quality of a selected phenotype that is displayed by an organism of interest or part thereof. The methodologies are distinct, as the methods of constructing a synthetic polynucleotide requires different reagents, steps, and conditions than the methodology of modulating the quality of a selected phenotype in an organism. Additionally, a search for the construction of a polynucleotide would not be co-extensive with a search of methods of modulation of phenotypes in an organism. Thus groups I and IV are biologically, functionally and compositionally distinct and capable of supporting individual patents.

6. The technical feature of group II, drawn to methods of determining the phenotypic preference of a first codon in an organism or part thereof is distinct from the technical feature of group III, drawn to transgenic organisms comprising a synthetic construct comprising a regulatory polynucleotide operably linked to a tandem repeat of a first codon fused in frame with a reporter polynucleotide. There is no requirement that that synthetic constructs in the transgenic organism of group III are in the organisms of group II. Additionally the transgenic organisms can be used in alternate experiments, such as those resulting in the genotypic results from genomic integration of the exogenous polynucleotides. Thus groups II and III are biologically, functionally and compositionally distinct and capable of supporting individual patents.

7. The technical feature of group II, drawn to methods of determining the phenotypic preference of a first codon in an organism or part thereof is distinct from the technical feature of group IV, drawn to methods of modulating the quality of a selected phenotype that is displayed by an organism of interest or part thereof. The methodologies are distinct, as the methods of determining the phenotypic preference of a first codon in an organism requires different reagents, steps, and conditions than the methodology of modulating the quality of a selected phenotype in an organism. Thus groups II and IV are biologically, functionally and compositionally distinct and capable of supporting individual patents.

8. The technical feature of group III, drawn to transgenic organisms comprising a synthetic construct comprising a regulatory polynucleotide operably linked to a tandem repeat of a first codon fused in frame with a reporter polynucleotide is distinct from the technical feature of group IV, drawn to methods of modulating the quality of a selected phenotype that is displayed by an organism of interest or part thereof. The transgenic organisms of group III are compositions, whereas the technical feature of group IV is a methodology. The transgenic organisms of group III can be used in alternate experiments, such as those resulting in the genotypic results from genomic integration of the exogenous polynucleotides. Additionally, there is no requirement that the methodology of group IV use the transgenic organisms of group III. Thus groups III and IV are biologically, functionally and compositionally distinct and capable of supporting individual patents.

9. Thus groups I-IV are biologically, functionally and compositionally distinct and capable of supporting individual patents.

10. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the

above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder**. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly A. Makar, Ph.D. whose telephone number is 571-272-4139. The examiner can normally be reached on 8AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Irem Yucel, Ph.D, J.D. can be reached on (571) 272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kam/02/15/07

DAVID GUZO
PRIMARY EXAMINER